

Richmond Refinery LPS Alert – Reliability



Fuel Gas controller failure on FSC switch



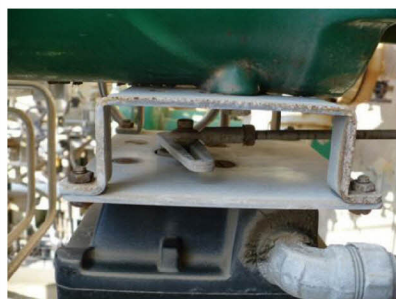
IPS Control: 1619056

Location: D&R NHT Plant
F-447

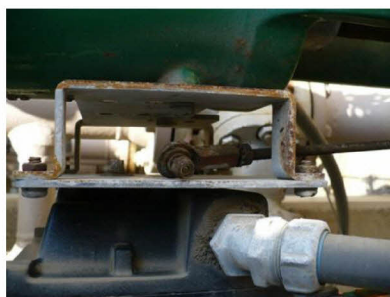
Contact Information:

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Before and After Photos:



Repaired F-447 FSC linkage arm



Broken F-447 controller linkage

***Always remember to do
your LPSA – because
we care about you!***

Incident Description:

On Wednesday Sept 2nd in the afternoon, NHT feed was being restored to both rheniformers with the spare P-447 pump when a fuel gas controller connecting pin failed at the F-447 furnace Fail-Safe Control (FSC) linkage. This failure prevented the FSC from being reset in the field. The fuel gas controller and FSC were temporarily bypassed for maintenance to repair the linkage arm failure while the furnace was relit in manual control.

The control arms are made of a fragile Pot Metal.

The manufacturer has redesigned the control arms and there have been prior initiatives to replace these, though some still exist throughout the refinery.

Immediate Actions Taken:

- 1) Maintenance installed a new redesigned linkage
- 2) The F-447 FSC was put back in service.
- 3) Surveys and replacement of the original Pot Metal type control arms found on FSC switches are being requested. These are typically found on Westlock Control Corp model 2007 switches, though all FSC switches should be surveyed.
- 4) An LPS loss investigation is currently underway to fully assess and analyze this failure.

LOSS PREVENTION SELF-ASSESSMENT

BEFORE BEGINNING ANY ACTIVITY/TASK/JOB, AFTER A LOSS OR NEAR LOSS, ANY UNUSUAL CIRCUMSTANCES:



ASSESS the risk!

What could go wrong?

What is the worst thing that could happen if something does go wrong?

ANALYZE how to reduce the risk!

Do I have all the necessary Training and Knowledge to do this job properly?

Do I have all the proper Tools and Personal Protective Equipment?

ACT to ensure loss-free operations!

Take necessary Action to ensure the job is done properly!

Follow written procedures! Ask for assistance, if needed!

DO NOT PROCEED UNLESS ALL RISKS HAVE BEEN ADDRESSED!

For Everyone • Every Day • All the Time